

REMARKS

Applicants appreciate the time taken by the Examiner to review Applicants' present application. This application has been carefully reviewed in light of the Official Action mailed November 25, 2003. Applicants believe that this application is now in condition for allowance and respectfully request allowance of Claims 1-85.

Rejections under 35 U.S.C. § 103

The Examiner rejected claims 1-28 and 85 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,090,100 issued to Hohla ("Hohla") in view of the symposium paper entitled "Wavefront Aberration of the Eye: A Review" by W. N. Charman ("Charman"). In particular, the Examiner states that Hohla "teaches a method as claimed except for the precise corrections and the means for determining the tissue to be removed. Charman teaches using wavefront aberrations to correct vision. It would have been obvious to the artisan of ordinary skill to employ the method of Charman to determine the tissue to be removed in the method of Hohla, since Hohla teaches no particular method to do this or to employ the refractive correction method of Hohla in the method of Charman, since Charman discusses no particular refractive surgical procedure, and in either case to provide the particular surgical outcomes, since these are notorious in the art, official notice of which is hereby taken, thus producing a method such as claimed."

Applicants respectfully disagree with the Examiner. Neither Hohla, nor Charman, nor any combination of the two, teaches Applicants' invention as claimed in independent claims 1 and 85. In particular, Hohla teaches producing a plurality of laser beam shots, a method based on topological calculations and well known algorithms for determining the tissue to be ablated, and a method for dithering (randomly or otherwise moving subsequent laser shots from a center of axis of treatment) the laser beam shots to prevent the formation of ridges and to reduce the possibility of thermal damage to the eye tissue due to multiple laser shots too close together in the same ablation area. Hohla does not, however, anywhere teach or suggest the method steps of determining an optical path difference between a plane wave and a wavefront emanating from an eye, applying a plurality of laser beam shots to the eye in a manner based in part on the optical path difference between the plane wave and the wavefront (or in a manner to create two different focus zones), and removing tissue from the cornea of the eye in a manner that reduces the optical path difference between the plane wave and the

wavefront emanating from the eye, as claimed by Applicants. The Examiner's assertion that Hohla teaches a method as claimed by Applicants, with the exception of the precise corrections and the means for determining the tissue to be removed, is thus incorrect. Hohla does not teach or suggest any of the essential features of Applicants' invention as claimed except for producing a plurality of laser beam shots. Because Hohla does not teach or suggest the combination claimed by Applicants, there is no motivation to combine Hohla with any other art. Independent claims 1 and 85 thus cannot be rendered obvious by Hohla either alone, or in combination with any other art. In this regard, Applicants respectfully point out that in order to combine references for an obviousness rejection, there must be some teaching, suggestion or incentives supporting the combination. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989). The mere fact that the prior art could be modified does not make that modification obvious unless the prior art suggests the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). In addition, it is well established that Applicant's disclosure cannot be used to reconstruct Applicant's invention from individual pieces found in separate, isolated references. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988).

Further, Applicants respectfully submit that Charman does not, as the Examiner suggests, teach the use of wavefront aberrations to correct vision and, in particular, does not teach the method as claimed by Applicants or a particular method of any sort. Instead, Charman teaches the desirability of studying, using wavefront analysis, the aberrations induced by refractive surgery to explore the relationship between the aberrations and visual performance of patients who have undergone refractive surgery. (Charman, p. 582, first full paragraph). Charman also teaches various methods of measuring wavefront aberration, but does not teach a particular method of using such measurements to correct vision, and certainly does not teach or suggest the method as claimed by Applicants. (Charman, pp. 577-578). All of the elements recited in Applicants' independent claims 1 and 85 are therefore not taught or suggested by either Hohla or Charman, either alone or in combination with one another.

Applicants respectfully submit that not only do Hohla and Charman not disclose Applicants' invention as claimed, either alone or in combination with one another, but there is no motivation, teaching or suggestion to combine Hohla with Charman, or vice-versa. Therefore, the rejection on a combination of these references is inappropriate. Applicants therefore respectfully request withdrawal of the rejection and allowance of independent

claims 1 and 85. Claims 2-28 depend from independent claim 1, and as such each is patentably distinct and allowable as a further limitation upon claim 1. Therefore, Applicants respectfully request the Examiner withdraw the rejection and allow claims 1-28 and 85.

The Examiner rejected claims 29-56 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,163,934 issued to Munnerlyn ("Munnerlyn") in combination with Charman. In particular, the Examiner states that Munnerlyn "teaches a method as claimed except for the precise corrections [and] the means for determining. The teachings of Charman; the motivations for combination thereof; and the official notification are as set forth above. Thus it would have been obvious to the artisan of ordinary skill to combine these old and well known teachings to produce a method such as claimed."

Applicants respectfully disagree with the Examiner. In this regard, Applicants reassert the arguments presented above with regards to the Examiner's 35 U.S.C. 103(a) rejection of claims 1-28 and 85. In particular, Applicants respectfully submit that while Munnerlyn does teach producing a plurality of laser beam shots, mechanically removing the epithelium of an eye, a method based on topological calculations and well known algorithms for determining the tissue to be ablated, and a method for improving the accuracy of the laser ablation of corneal tissue to produce a smoother profile on the anterior surface of the cornea, Munnerlyn does not anywhere teach or suggest the method steps of determining an optical path difference between a plane wave and a wavefront emanating from an eye, applying a plurality of laser beam shots to the Bowman's membrane of an eye in a manner based in part on the optical path difference between the plane wave and the wavefront, and removing tissue from the cornea of the eye with the plurality of laser beam shots in a manner that reduces the optical path difference between the plane wave and the wavefront emanating from the eye, as claimed by Applicants. The Examiner's assertion that Munnerlyn teaches a method as claimed by Applicants, with the exception of the precise corrections and the means for determining the tissue to be removed, is thus incorrect. Munnerlyn does not teach or suggest any of the essential features of Applicants' invention as claimed except for producing a plurality of laser beam shots and mechanically removing the epithelium of an eye. Because Munnerlyn does not teach or suggest the combination claimed by Applicants, there is no motivation to combine Munnerlyn with any other art. Independent claim 29 thus cannot be rendered obvious by Munnerlyn either alone, or in combination with any other art.

For the same reasons as provided above, Charman likewise does not teach or suggest Applicants' invention as claimed in independent claim 29. All of the elements recited in Applicants' independent claim 29 are therefore not taught or suggested by either Munnerlyn or Charman, either alone or in combination with one another. Applicants further respectfully submit that not only do Munnerlyn and Charman not disclose Applicants' invention as claimed, either alone or in combination with one another, but there is no motivation, teaching or suggestion to combine Munnerlyn with Charman, or vice-versa. Therefore, the rejection on a combination of these references is inappropriate. Applicants therefore respectfully request withdrawal of the rejection and allowance of independent claim 29. Claims 30-56 depend from independent claim 29, and as such each is patentably distinct and allowable as a further limitation upon claim 29. Therefore, Applicants respectfully request the Examiner withdraw the rejection and allow claims 29-56.

The Examiner rejected claims 57-84 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,903,695 issued to Warner et al. ("Warner") in combination with Charman (Examiner states that claims 58-84 are rejected, but because claims 58-84 are only dependent claims depending from Claim 57, Applicants appreciate that Examiner intended to indicate that claims 57-58 are rejected). In particular, the Examiner states that Warner "teaches a method as claimed except for the precise corrections [and] the means for determining. The teachings of Charman; the motivations for combination thereof; and the official notification are as set forth above. Thus it would have been obvious to the artisan of ordinary skill to combine these old and well known teachings to produce a method such as claimed."

Applicants respectfully disagree with the Examiner. In this regard, Applicants reassert the arguments presented above with regards to the Examiner's 35 U.S.C. 103(a) rejection of claims 1-56. In particular, Applicants respectfully submit that while Warner does teach displacing a portion of the eye to expose the stroma of the eye, producing a plurality of laser beam shots, and replacing the displaced portion of the eye (steps of a now well known refractive procedure), Warner does not anywhere teach or suggest the method steps of determining an optical path difference between a plane wave and a wavefront emanating from an eye, applying a plurality of laser beam shots to the exposed stroma in a manner based in part on the optical path difference between the plane wave and the wavefront, and removing tissue from the cornea of the eye with the plurality of laser beam shots in a manner that reduces the optical path difference between the plane wave and the wavefront emanating from

the eye, as claimed by Applicants. The Examiner's assertion that Warner teaches a method as claimed by Applicants, with the exception of the precise corrections and the means for determining the tissue to be removed, is thus incorrect. Warner does not teach or suggest any of the essential wavefront features of Applicants' invention as claimed. Because Warner does not teach or suggest the combination claimed by Applicants, there is no motivation to combine Warner with any other art. Independent claim 57 thus cannot be rendered obvious by Warner either alone, or in combination with any other art.

For the same reasons as provided above, Charman likewise does not teach or suggest Applicants' invention as claimed in independent claim 57. All of the elements recited in Applicants' independent claim 57 are therefore not taught or suggested by either Warner or Charman, either alone or in combination with one another. Applicants further respectfully submit that not only do Warner and Charman not disclose Applicants' invention as claimed, either alone or in combination with one another, but there is no motivation, teaching or suggestion to combine Warner with Charman, or vice-versa. Therefore, the rejection on a combination of these references is inappropriate. Applicants therefore respectfully request withdrawal of the rejection and allowance of independent claim 57. Claims 58-84 depend from independent claim 57, and as such each is patentably distinct and allowable as a further limitation upon claim 57. Therefore, Applicants respectfully request the Examiner withdraw the rejection and allow claims 57-84.

CONCLUSION

Applicants have now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of Claims 1-85.

An extension of two (2) months is requested and a Notification of Extension of Time Under 37 C.F.R. § 1.136 with the appropriate fee is attached hereto.

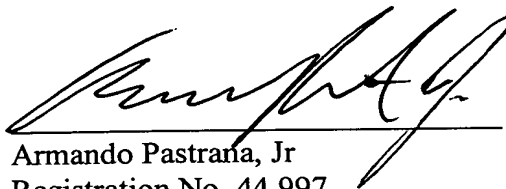
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The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present invention.

Respectfully submitted,

26 APR 04

Date



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